ABSTRACT OF THE DISCLOSURE

A method and an apparatus for recording at least two multiplexed holograms. The object beam and the reference beam generated by a coherent light source. Either an object beam or a reference beam is reflected from at least one portion of an aspherical reflecting surface causing the object beam and the reference beam to intersect and form an interference pattern at a plane defined by the intersection of the object and reference beams at a selected storage location in a recording media. At least one of a portion of the reference beam impinging on a recording media at the selected storage location and a portion of the object beam impinging on the recording media at the selected storage location is rotated through a selected azimuthal angle about an axis that lies in the plane formed by optical axes of the portions of the object beam and the reference beam impinging on the recording media, wherein the axis passes through a plane defined by the intersection of the object beam and the reference beam in the recording media, and wherein an angle between optical paths of the portions of the object beam and the reference beam impinging on the recording media is preserved.